

Appl. No. : 10/719,277  
Filed : November 20, 2003

### REMARKS

In the Office Action mailed on June 16, 2005, the Examiner found that Claims 23-32 are allowable. The Examiner rejected the remainder of the pending claims, Claims 1-22 and 33-42. In the present Amendment and Response to Office Action, Applicants have amended 1, 9, 11, 14, 19, 22-23, 25-27, 29-30 and 32-34, and have canceled Claims 8, 13, 21 and 42-54. Applicants respectfully request entry of the amendments and full consideration of the remarks contained herein.

#### Allowable Subject Matter and Amendments to the Claims

Applicants thank the Examiner for indicating that Claims 23-32 are allowable. In response, Applicants have rewritten Claims 23, 25-27, 29-30 and 32-34 in independent form, including all limitations of independent Claim 21. In addition, Claim 26 has been amended to recite “the group [[comprising]]consisting of copper, silver and gold” to clarify Applicants intended recitation of a Markush group. Also, in light of the rewriting of Claim 26 in independent form and of the cancellation of independent Claim 21, dependent Claims 22-23 and 33 have been amended to depend from Claim 26, rather than cancelled Claim 21. Because Applicants have merely incorporated limitations of independent Claim 21 into certain of the dependent claims and have merely changed the dependencies of other claims, Applicants respectfully submit that the amendments add no new matter and are fully supported by the Application as originally filed. Consequently, Applicants respectfully submit that Claims 22-33 are in condition for allowance.

Applicants have also amended the claims to further clarify the subject matter that Applicants regard as the invention. For example, Claim 19 has been rewritten in independent form, including all limitations of Claim 1. Also, Claim 34 has been amended to incorporate the limitations of Claim 42. Applicants submit that the rewriting of dependent claims in independent form and the incorporation of dependent features into independent claims adds no new matter.

In addition, Claim 1 has been amended to recite that “the sacrificial material comprises a metal or an organic material.” In view of this amendment, the limitations of Claim 8 have been merged with each of Claims 8 and 11, and the limitations of Claim 13 have been merged with

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Claim 14. Support for these amendments can be found in, *e.g.*, the Application, pp. 11-12 and Claims 8 and 13, as originally filed.

Thus, Applicants respectfully submit that the amendments add no new matter and are fully supported by the application as originally filed.

### **Rejections Under 35 U.S.C. § 102**

The Examiner has rejected Claims 1-22 and 33-42 as being anticipated by Chan *et al.* (U.S. Patent No. 6,716,693).

For the reasons below, Applicants respectfully submit that the pending claims, as amended herewith, are patentably distinct.

### **Claim 1**

Applicants note that Claim 1 has been amended to recite that “the sacrificial material comprises a metal or an organic material.” In contrast, Chan *et al.* emphasizes the importance of using silicon nitride, which is neither a metal nor an organic material, as a sacrificial material. Chan *et al.* repeatedly states that “[k]ey to the method of the present invention, is the use of a sacrificial silicon nitride.” *See, e.g.*, Chan *et al.*, Col. 2, lines 54-55 and Col. 3, line 65-66. Thus, not only does Chan *et al.* not teach metals or organic materials as sacrificial materials, as recited by Claim 1, but Chan *et al.* teaches against the use of materials other than silicon nitride by stressing the importance of using silicon nitride as the sacrificial material. Consequently, Applicants respectfully submit that Chan *et al.* does not anticipate amended Claim 1.

Applicants also submit that the other art of record teach or suggest the recited sacrificial materials.

### **Claim 19**

Claim 19 has been rewritten in independent form and recites, among other things, that “the sacrificial material comprises a material that can be sublimed below about 400°C.” In contrast, as noted above, Chan *et al.* stresses the importance of using silicon nitride, which it teaches is removed using a wet etch. *See, e.g.*, Chan *et al.*, Col. 6, lines 49-54. Chan *et al.* does not teach subliming the sacrificial material, nor using a sacrificial material “that can be sublimed

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below about 400°C,” as recited by Claim 19. Consequently, Applicants respectfully submit that Chan *et al.* does not anticipate Claim 19.

Applicants submit that the art of record also does not satisfy this deficiency.

#### **Claim 34**

Claim 34 has been amended to recite that the cross-sectional area of the opening formed by removing the sacrificial material “increases with decreasing distance to the top surface.” Applicants note that Chan *et al.* contains no discussion of and, so, does not teach how the cross-sectional area of its opening should progress relative to distance from the top surface of a wafer. As such, Chan *et al.* does not teach or suggest the particular progression of cross-sectional area claimed by Applicants. Consequently, Applicants respectfully submit that Chan *et al.* does not anticipate Claim 34.

Applicants submit that the art of record also does not teach or suggest this arrangement of cross-sectional areas.

Accordingly, Applicants submit that the pending claims are allowable over the art of record. Applicants have not specifically addressed the further rejections of dependent claims as being moot in view of the amendments and remarks herein. However, Applicants expressly do not acquiesce in the Examiner’s findings not addressed herein. Indeed, Applicants submit that the dependent claims recite further novel and non-obvious features of particular utility.

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### CONCLUSIONS

In view of the foregoing amendments and remarks, Applicants request entry of the amendments and submit that the application is in condition for allowance and respectfully request the same. If some issue remains which the Examiner feels may be addressed by Examiner's amendment, the Examiner is cordially invited to call the undersigned for authorization.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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